

REMARKS

Claims 5 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent Application Publication No. 2001/0008502 to Watanabe in view of United States Patent No. 4,420,780 to Deckert and further in view of United States Patent No. 6,728,179 to Nakano. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references, alone or in combination, fail to disclose or suggest all of the claimed features of the present invention. More specifically, the cited references fail to disclose or suggest a magneto-optical storage device that includes, *inter alia*, a micro-positioning controller that includes “a fixed piece fixed to the substrate, and a movable piece which holds the first object lens and is movable radially of the storage disc relative to the fixed piece together with the first object lens” (emphasis added), as now recited in amended independent Claim 8.

Amended independent Claim 8 sets forth a magneto-optical storage device that includes a floating slider for facing a storage disc, a light condenser for forming a laser spot on the storage disc, and a magnetic field generator for generating a magnetic field at a region where the laser spot is formed. The floating slider includes an opposing face opposed to the storage disc, the opposing face having a crown surface like an outer columnar surface having an axis extending radially of the storage disc. The floating slider is floated off the storage disc by air flowing in between the storage disc and the opposing surface. The following requirement is satisfied where d represents a crown thickness defined as a distance

from a vertex of an arc in a section of the crown surface to a chord of the arc, and L represents a slider length defined as a length of the opposing face parallel to the chord:

$$250(\text{nm/mm}) \times L(\text{mm}) \leq d(\text{nm}) \leq 250(\text{nm/mm}) \times L(\text{mm}) + 1500(\text{nm}).$$

The light condenser and the magnetic field generator are mounted on the floating slider. The light condenser includes a first object lens supported by a substrate via a micro-positioning controller, and a second object lens supported by a casing that covers the micro-positioning controller. The micro-positioning controller includes a fixed piece fixed to the substrate, and a movable piece which holds the first object lens and is movable radially of the storage disc relative to the fixed piece together with the first object lens.

The underlined new features of amended independent Claim 8 are supported by the description from page 11, lines 4-16, taken with the showing of Figures 1 and 3. In Figures 1 and 3, the direction indicated by the double-headed arrow R is the radial direction of the disc, which is the tracking direction. In this regard, Applicants would like to point out that normal, prior art tracking control is performed by moving the floating slider as a whole radially of the storage disc, as opposed to the claimed invention of Claim 8 wherein such tracking control is performed by radially moving only the lens holding movable piece of the slider.

The Watanabe reference discloses a floating slider which carries two object lenses (see Figure 3). However, neither of the two lenses is movable relative to the slider (or a fixed piece incorporated in the slider), as correctly noted by the Examiner. The Deckert

reference is relevant only to the claimed floating slider, but clearly fails to teach or suggest the structure of a light condenser, as also correctly noted by the Examiner.

Accordingly, the Examiner relied upon the Nakano et al. reference for the method of supporting the object lens. However, in the Nakano et al. reference, the combination of the magnets 4 and the voice coil 7 is effective only for moving the second lens 3 in the focusing direction, which is toward or away from the recording medium 11. Thus, Applicants respectfully submit that the Nakano et al. reference fails to teach the claimed movable piece which holds the first object lens and is movable radially of the storage disc (i.e., in the tracking direction), as defined in independent Claim 8.

Thus, as all of the features defined in independent Claim 8 are not disclosed or suggested in the cited references, Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 8 and associated dependent Claim 5.

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Watanabe in view of Deckert and Nakano and further in view of United States Patent No. 5,253,232 to Akagi et al. Applicants respectfully traverse this rejection.

Claim 2 depends from independent Claim 8, and therefore includes all of the features of Claim 8, plus additional features. Accordingly, Applicants respectfully request that this §103 rejection of dependent Claim 2 be withdrawn considering the above remarks directed to independent Claim 8, and also because the Akagi et al. reference does not remedy the deficiencies noted above, nor was it relied upon as such. More specifically, in the device of the Akagi et al. reference, there is only one object lens 5, and this lens is not even

supported on a floating slider. Thus, for at least these reasons, Applicants respectfully request the withdrawal of this §103 rejection.

Claims 3 and 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Watanabe in view of Deckert and Nakano and further in view of United States Patent No. 5,748, 408 to Barrois et al. Applicants respectfully traverse this rejection.

Claims 3 and 4 both depend from independent Claim 8, and therefore include all of the features of Claim 8, plus additional features. Accordingly, Applicants respectfully request that this §103 rejection of dependent Claims 3 and 4 be withdrawn considering the above remarks directed to independent Claim 8, and also because the Barrois et al. reference does not remedy the deficiencies noted above, nor was it relied upon as such. More specifically, the Barrois et al. reference is relevant only to the claimed floating slider, but clearly fails to teach or suggest the structure of a light condenser. Thus, for at least these reasons, Applicants respectfully request the withdrawal of this §103 rejection.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Watanabe in view of Deckert and further in view of Nakano. Applicants respectfully traverse this rejection.

Claim 6 depends from independent Claim 8, and therefore includes all of the features of Claim 8, plus additional features. Accordingly, Applicants respectfully request that this §103 rejection of dependent Claim 6 be withdrawn considering the above remarks directed to independent Claim 8.

Finally, Applicants have added new dependent Claim 9. Applicants respectfully submit that new dependent Claim 9 is allowable for at least the reasons discussed above with regard to associated independent Claim 8.

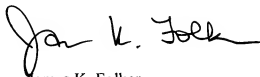
For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned attorney.

Respectfully submitted,

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